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METHODS AND EQUIPMENT  
FOR MACHINING METAL IMPROVE

At present, high-speed machining of metals is widespread in Soviet machine-tool building plants. Turners at the Moscow Machine-Tool Building Plant, the Krasny Proletariy Plant and the Plant imeni Sverdlov have done particularly outstanding work in this field.

Bortkevich, a Stakhanovite turner at the Plant imeni Sverdlov, has made remarkable advances in machining on small series production items. He increased the speed of turning and threading from the planned 50 - 55 meters per minute to 270 meters per minute, and the rate of feed from 0.20 to 0.22 millimeters. His threading depth was increased from 1.5 to 2.0 millimeters. His turning outter was of T15K6S laminated hard alloy. In threading he used a threading tool of laminated T1 hard alloy.

Under small series production conditions, he had to use several different chuck mandrels. The outters were set perfectly for the first pass, after which the shape and size of the parts were maintained within tolerance by adjusting the surfacing screw.

After hearing a lecture by Bortkevich on his methods, the Collegium of the Ministry of Machine-Tool Building worked out measures for wide dissemination of his methods.

Bortkevich gave a demonstration at the Moscow Machine-Tool Building Plant and at the Krasny Proletariy Plant before a large group of machine-tool industry Stakhanovites.

Bortkevich was awarded the emblem "Outstanding Machine-Tool Builder" and 2 months' wages by A. I. Yefremov, Minister of Machine-Tool Building USSR. At the same time, Yefremov awarded bonuses of one month's salary to V. N. Koval'chuk, director of Plant imeni Sverdlov, Chief Engineer I. I. Verin and Chief Technologist Ye. I. Zazerskiy for their cooperation with Bortkevich and for their efforts in popularizing his work methods.

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Tool plants of the Ministry of Machine-Tool Building have come out with a number of important new products recently. The Moscow Tool Plant is now producing cutters, shavers, and shapers for gears of 0.5 module and up. The plant is also putting out gear shapers with flank blades for shaving.

On 15 April 1948, at the Frezer Plant imeni Kalinin, two conveyer lines for screw-tap manufacture went into operation. The lines were planned and installed by Stankimprom, Ministry of Machine-Tool Building. In the first few days of operation the output of the shop doubled, despite the necessity of resetting much of the old equipment and training the workers for new operations involved in conveyer line production.

The plant has also organized series production of high-speed milling cutters of 110, 150, 200, 250 and 300-millimeter diameter. Also 2K threading heads with circular threading dies for cutting 6 to 14 millimeter diameter threads are in series production.

The Sestroretsk Tool Plant now has heads with tangential threading dies up to 32 millimeters in diameter in series production. High-speed milling cutters of the same dimensions as those made at the Frezer Plant imeni Kalinin are also in series production here.

The Kirzhachskiy and Tomak tool plants have organized series production of segments for built-up saws of 610 - 660 millimeters in diameter.

At the beginning of 1948, work was started in the Kalibr Plant on an assembly line for producing four types of micrometers. The line is being designed and installed by Stankimprom. The line is to move at a constant rate without stops.

The Kalibr Plant is also at work on orders for special lighting equipment for use in high-precision inspection work.

At the Leningrad Tool Plant, series production of 0.25 millimeters and 25- to 50-millimeter passameters [instrument for measuring deviation of outside measurements from specified dimensions] is under way. The plant is also making dial-checking instruments for measurements up to 1,000 millimeters. These are being made on order.

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